

In the claims:

1-34. (Presently canceled)

35. (New): A method for identifying a candidate compound for modulating a pain disorder, the method comprising:

- i) combining a compound to be tested with a sample comprising a polypeptide selected from the group consisting of:
  - a) a polypeptide which is at least 95% identical to the amino acid sequence of SEQ ID NO:2, wherein the polypeptide exhibits carboxylesterase activity; and
  - b) a polypeptide encoded by a nucleic acid molecule comprising a nucleotide sequence which is at least 95% identical to the nucleotide sequence of SEQ ID NO:1 or SEQ ID NO:3, wherein the polypeptide exhibits carboxylesterase activity;

under conditions suitable for binding;

- ii) assessing the ability of the compound to bind to the polypeptide; and
- iii) selecting a compound capable of binding to the polypeptide;

thereby identifying a candidate compound for modulating a pain disorder.

36. (New): The method of claim 35, wherein the sample is an isolated polypeptide, a membrane-bound form of an isolated polypeptide or a cell comprising the polypeptide.

37. (New): The method of claim 36, wherein the cell is selected from the group consisting of a brain cell, a cell derived from spinal cord and a cell derived from dorsal root ganglion.

38. (New): The method of claim 35, wherein the compound is selected from the group consisting of a small molecule, a peptide or an antibody.

39. (New): The method of claim 35, wherein the polypeptide further comprises heterologous sequences.

40. (New): The method of claim 35, wherein the binding of the test compound to the polypeptide is determined by a method selected from the group consisting of:

- a) direct detecting of test compound/polypeptide binding;
- b) a competition binding assay;
- c) an immunoassay;
- d) a yeast two-hybrid assay; and
- e) an assay for lipid metabolism.

41. (New): The method of claim 35, wherein the binding of the test compound to the polypeptide is determined by an assay for an activity of the polypeptide.

42. (New): The method of claim 41, wherein the polypeptide activity is carboxylesterase activity.

43. (New): A method for identifying a candidate compound for modulating a pain disorder, the method comprising:

- i) combining a compound to be tested with a sample comprising a polypeptide selected from the group consisting of:
  - a) a polypeptide comprising the amino acid sequence of SEQ ID NO:2; and
  - b) a polypeptide encoded by the nucleotide sequence set forth in SEQ ID NO:1 or SEQ ID NO:3;under conditions suitable for binding;
- ii) assessing the ability of the compound to bind to the polypeptide; and
- iii) selecting a compound capable of binding to the polypeptide;

thereby identifying a candidate compound for modulating a pain disorder.

44. (New): The method of claim 43, wherein the sample is an isolated polypeptide, a membrane-bound form of an isolated polypeptide or a cell comprising the polypeptide.

45. (New): The method of claim 44, wherein the cell is selected from the group consisting of a brain cell, a cell derived from spinal cord and a cell derived from dorsal root ganglion.

46. (New): The method of claim 43, wherein the compound is selected from the group consisting of a small molecule, a peptide or an antibody.

47. (New): The method of claim 43, wherein the polypeptide further comprises heterologous sequences.

48. (New): The method of claim 43, wherein the binding of the test compound to the polypeptide is determined by a method selected from the group consisting of:

- a) direct detecting of test compound/polypeptide binding;
- b) a competition binding assay;
- c) an immunoassay;
- d) a yeast two-hybrid assay; and
- e) an assay for an assay for lipid metabolism.

49. (New): The method of claim 43, wherein the binding of the test compound to the polypeptide is determined by an assay for an activity of the polypeptide.

50. (New): The method of claim 49, wherein the polypeptide activity is carboxylesterase activity.

51. (New): A method for identifying a candidate compound capable of modulating a pain signaling mechanism, the method comprising:

- i) combining a compound to be tested with a sample comprising a polypeptide selected from the group consisting of:
  - a) a polypeptide which is at least 95% identical to the amino acid sequence of SEQ ID NO:2, wherein the polypeptide exhibits carboxylesterase activity; and
  - b) a polypeptide encoded by a nucleic acid molecule comprising a nucleotide sequence which is at least 95% identical to the nucleotide sequence of SEQ ID NO:1 or SEQ ID NO:3, wherein the polypeptide exhibits carboxylesterase activity;

under conditions suitable for binding;

- ii) assessing the ability of the compound to bind to the polypeptide; and
  - iii) selecting a compound capable of binding to the polypeptide;
- thereby identifying a candidate compound for modulating a pain signaling mechanism.

52. (New): The method of claim 51, wherein the sample is an isolated polypeptide, a membrane-bound form of an isolated polypeptide or a cell comprising the polypeptide.

53. (New): The method of claim 52, wherein the cell is selected from the group consisting of a brain cell, a cell derived from spinal cord and a cell derived from dorsal root ganglion.

54. (New): The method of claim 51, wherein the compound is selected from the group consisting of a small molecule, a peptide or an antibody.

55. (New): The method of claim 51, wherein the polypeptide further comprises heterologous sequences.

56. (New): The method of claim 51, wherein the binding of the test compound to the polypeptide is determined by a method selected from the group consisting of:

- a) direct detecting of test compound/polypeptide binding;
- b) a competition binding assay;
- c) an immunoassay;
- d) a yeast two-hybrid assay; and
- e) an assay for lipid metabolism.

57. (New): The method of claim 51, wherein the binding of the test compound to the polypeptide is determined by an assay for an activity of the polypeptide.

58. (New): The method of claim 57, wherein the polypeptide activity is carboxylesterase activity.

59. (New): A method for identifying a candidate compound for modulating a pain signaling mechanism, the method comprising:

- i) combining a compound to be tested with a sample comprising a polypeptide selected from the group consisting of:
    - a) a polypeptide comprising the amino acid sequence of SEQ ID NO:2; and
    - b) a polypeptide encoded by the nucleotide sequence set forth in SEQ ID NO:1 or SEQ ID NO:3;under conditions suitable for binding;
  - ii) assessing the ability of the compound to bind to the polypeptide; and
  - iii) selecting a compound capable of binding to the polypeptide;
- thereby identifying a candidate compound for modulating a pain signaling mechanism.

60. (New): The method of claim 59, wherein the sample is an isolated polypeptide, a membrane-bound form of an isolated polypeptide or a cell comprising the polypeptide.

61. (New): The method of claim 60, wherein the cell is selected from the group consisting of a brain cell, a cell derived from spinal cord and a cell derived from dorsal root ganglion.

62. (New): The method of claim 59, wherein the compound is selected from the group consisting of a small molecule, a peptide or an antibody.

63. (New): The method of claim 59, wherein the polypeptide further comprises heterologous sequences.

64. (New): The method of claim 59, wherein the binding of the test compound to the polypeptide is determined by a method selected from the group consisting of:

- a) direct detecting of test compound/polypeptide binding;
- b) a competition binding assay;
- c) an immunoassay;
- d) a yeast two-hybrid assay; and
- e) an assay for an assay for lipid metabolism.

65. (New): The method of claim 59, wherein the binding of the test compound to the polypeptide is determined by an assay for an activity of the polypeptide.
66. (New): The method of claim 65, wherein the polypeptide activity is carboxylesterase activity.